

GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village, Gudlavalleru – 521356, Krishna District (A.P.)

Academic Regulations

Applicable for the students of M.Tech from the Academic Year 2014-15.

1. Duration of the Program

The duration of the program is two academic years consisting of four semesters. However, a student is permitted to complete the course work of M.Tech program in the stipulated time frame of **FOUR** years from the date of joining.

2. Minimum Instruction Days

Each semester consists of a minimum of ninety instruction days.

3. Program Credits

Each specialization of the M.Tech programs is designed to have a total of 80 credits and the student shall have to complete the two year course work and earn all the 80 credits for the award of M.Tech Degree.

4. Attendance Regulations

- 4.1 A student shall be eligible to appear for End Semester Examinations if he acquires a minimum of 75% of attendance in aggregate of all the subjects.
- 4.2 Condoning of shortage of attendance in aggregate up to 10% (65% and above and below 75%) in each semester will be considered for genuine reasons such as medical grounds and participation in co-curricular and extra-curricular activities and shall be granted only after approval by a committee duly appointed by the college. Student should submit application for medical leave along with medical certificate from a registered medical practitioner within three days from reporting to the class work after the expiry of the medical leave. In case of participation in co-curricular and extra-curricular activities, either in the college or other colleges, students must take prior written permission from HoD concerned and should also submit the certificate of participation from the organizer of the event within three days after the completion of the event. Only such cases will be considered for condoning attendance shortage.
- 4.3 A student shall be eligible to claim for condonation of attendance shortage only once during the two years (four semesters) course work.
- 4.4 A student will not be promoted to the next semester unless he satisfies the attendance requirement of the current semester. He may seek re-admission for that semester when offered next.
- 4.5 **Shortage of Attendance below 65% in aggregate shall in NO case be condoned.**
- 4.6 Students whose shortage of attendance is not condoned in any semester are not eligible to take their end examination of that semester and their registration shall stand cancelled.
- 4.7 A fee stipulated by the college shall be payable towards condoning attendance shortage.

5. Examinations and Scheme of Evaluation

5.1 Theory Courses:

Each theory course shall be evaluated for a total of 100 marks, consisting of 40 marks for internal assessment and 60 marks for semester end examination.

- i) Out of 40 marks for internal assessment, 20 marks are for continuous assessment in the form of assignment and seminar and 20 marks are based on two mid-term examinations.
- ii) Of the 20 marks for continuous assessment, 10 marks each for assignment and seminar.
- iii) Each mid-term examination is conducted for 40 marks with two hours duration. Each mid-term examination consists of four questions, each for 10 marks. All the questions need to be answered.
- iv) Sum of the 75% marks of best scored mid-term examination and 25% marks of least scored mid-term examination are scaled down for 20 marks.
- v) Semester End Examination will have 8 questions, each for 12 marks, out of which 5 questions are to be answered.

5.2 Laboratory Course:

- i) For practical subjects the distribution shall be 40 marks for Internal Evaluation and 60 marks for the End-Examinations. There shall be continuous evaluation by the internal subject teacher during the semester for 40 internal marks. Of the 40 marks for internal, 30 marks shall be for day-to-day performance (20 marks for day-to-day evaluation and 10 marks for Record) and 10 marks shall be evaluated by conducting an internal laboratory test towards the end of semester.
- ii) Semester end examination shall be conducted by an internal examiner and an external examiner for 60 marks.

5.3 Seminar:

For seminar, a student under the supervision of a faculty member, shall collect the literature on an advanced topic related to his specialization and critically review the literature and submit it to the department in a report form two weeks before the end of the 3rd semester and shall make an oral presentation before the Departmental Review Committee consisting of the supervisor and a senior faculty member / Head of the Department. There shall be an internal evaluation for 50 marks in the form of viva-voce examination and assessment of report and its presentation. There will be NO external evaluation.

If a candidate fails to secure the minimum marks prescribed for successful completion, he has to re-register by paying the prescribed fee at the beginning of 4th semester or subsequent semesters. He has to submit a fresh report two weeks before the end of that semester and appear for the evaluation by the committee.

5.4 Comprehensive Viva-Voce:

Comprehensive Viva-Voce examination is conducted for 50 marks at the end of third semester in all the subjects of first two semesters of the course by a committee consisting of two senior faculty members of the department. There will be NO external evaluation.

If a candidate fails to secure the minimum marks prescribed for successful completion, he has to re-register by paying the prescribed fee at the beginning of 4th semester or subsequent semesters and undergo Viva-Voce examination towards the end of that semester.

5.5 Project work:

Every candidate shall be required to submit a thesis or dissertation on a topic approved by the Project Review Committee.

- i) A Project Review Committee (PRC) shall be constituted for each specialization with Head of the Department as Chairman and two other senior faculty members.

- ii) **Registration of Project Work:** A candidate who has been promoted to 3rd semester shall be eligible to register for the project work.
- iii) The eligible candidate can choose his project supervisor and submit the title, objective, abstract and plan of action of the proposed project work to the department for approval by the PRC. The candidate whose proposal is approved by the PRC shall register for the project work. The minimum duration of project work will be 36 weeks from the date of registration.
- iv) If a candidate wishes to change his supervisor or topic of the project, he can do so with the approval of the PRC. In case of such changes, the candidate has to register afresh.
- v) There shall be three reviews on the progress of the project work by the PRC with an interval of 12 weeks. The candidate needs to submit a report on the progress of his work and present it before the PRC for assessment. The PRC may suggest for an extension of date of submission of dissertation if the progress of work is not satisfactory or absent himself for the review.
- vi) A candidate who has passed all the theory, laboratory, seminar and comprehensive viva-voce examinations and shown satisfactory progress of project work is permitted to submit the dissertation after 36 weeks from the date of registration.
- vii) If a candidate fails to submit the dissertation by the end of the 4th semester, he has to take the permission for an extension by paying the semester(s) tuition fee.
- viii) Three copies of the Project Thesis certified by the supervisor shall be submitted to the Department.
- ix) Project evaluation and Viva-Voce examination is conducted at the end of 4th semester by a committee consisting of Project Supervisor, senior faculty of the department, HoD and an External Examiner nominated by the Chief Controller of Examinations out of a panel of three examiners suggested by the department.

The following grades are awarded for the project work:

- i. Excellent
- ii. Very Good
- iii. Good
- iv. Satisfactory
- v. Unsatisfactory

The Grade “unsatisfactory” is treated as Fail. Failed Students should take supplementary examination after making required modifications, if any, in the dissertation with a minimum gap of 8 weeks by paying the required examination fee.

6. Criteria for Passing a Course and Award of Grades:

6.1 Criteria for Passing a Course:

- i) A candidate shall be declared to have passed in individual theory/ drawing / design course / laboratory if he secures a minimum of 50% aggregate marks (internal & semester end examination marks put together), subject to securing a minimum of 40% marks in the semester end examination.
- ii) The candidate shall be declared to have passed in seminar / comprehensive viva-voce if he secures 50% marks.
- iii) The candidate shall be declared to have successfully completed the project work if he secures a minimum of ‘satisfactory’ grade in the project evaluation and viva-voce examination.

- iv) On passing a course of a program, the student shall earn assigned credits in that course.

6.2 Method of Awarding Letter Grades and Grade Points for a Course:

A letter grade and grade points will be awarded to a student in each course based on his performance as per the grading system given below.

Theory Course (%)	Laboratory/Comprehensive Viva-Voce / Project work (%)	Grade Points	Letter Grade
≥ 90	≥ 90	10	O
≥ 80 & < 90	≥ 80 & < 90	9	A ⁺
≥ 70 & < 80	≥ 70 & < 80	8	A
≥ 60 & < 70	≥ 60 & < 70	7	B ⁺
≥ 50 & < 60	≥ 50 & < 60	6	B
< 50	< 50	0	F (Fail)

O : Outstanding

A⁺ : Excellent

A : Very Good

B⁺ : Good

B : Above Average

C : Average

P : Pass

6.3 Calculation of Semester Grade Point Average (SGPA)* for semester:

The performance of each student at the end of the each semester is indicated in terms of SGPA. The SGPA is calculated as given below:

$$\text{SGPA} = \frac{\sum (CR \times GP)}{\sum CR} \text{ for each semester. where CR = Credits of a course}$$

GP = Grade Points awarded for a course

* SGPA is calculated for a candidate who passed all the courses in that semester.

6.4 Eligibility for Award of M.Tech Degree:

A student will be declared eligible for the award of the M. Tech. Degree if he fulfills the following academic regulations.

- Pursued a course of study for not less than two academic years and not more than four academic years.
- Registered for **80** credits and secured **80** credits.
- Students, who fail to complete their Two years Course of study within Four years or fail to acquire the **80** Credits for the award of the degree within four academic years from the year of their admission shall forfeit their seat in M. Tech course and their admission shall stand cancelled.

6.5 Calculation of Cumulative Grade Point Average (CGPA) for Entire Program:

The CGPA is calculated as given below:

$$\text{CGPA} = \frac{\sum (CR \times GP)}{\sum CR} \text{ for entire program.}$$

where CR = Credits of a course and GP = Grade points awarded for a course

* CGPA is calculated for a candidate who passed all the prescribed courses excluding project work.

6.6 Award of Division:

After satisfying the requirements prescribed for the completion of the program, the student shall be eligible for the award of M. Tech Degree and shall be placed in one of the following grades:

CGPA	Class
≥ 7.5	First Class with Distinction
≥ 6.5 & < 7.5	First Class
≥ 6.0 & < 6.5	Second Class

7. Supplementary Examinations

- i) Supplementary examinations will be conducted once in a year along with regular examinations.
- ii) Semester end supplementary examinations shall be conducted till next regulation comes into force for that semester after the conduct of the last set of regular examinations under the present regulation.
- iii) Thereafter supplementary examinations will be conducted in the equivalent courses as decided by the Board of Studies concerned.

8. Revaluation

- i) Students can submit the applications for revaluation, along with the prescribed fee receipt for revaluation of his answer script(s) of theory course(s) as per the notification issued by the Controller of Examinations.
- ii) The Controller of Examinations shall arrange for revaluation of such answer script(s).
- iii) An external examiner, other than the first examiner, shall reevaluate the answer script(s).
- iv) If the variation in marks of two evaluations is less than 15% of total marks, the best mark of two evaluations shall be taken into consideration.
- v) If the variation in marks of two evaluations is more than 15% of total marks, there shall be third evaluation by an examiner other than the first two examiners. The best marks of two evaluations (which are nearer) shall be taken into consideration.

9. Readmission Criteria

A candidate, who is detained in a semester due to lack of attendance has to obtain written permission from the Principal for readmission into the same semester after duly fulfilling the required norms stipulated by the college and by paying the required tuition fee and special fee in addition to paying an administrative fee of Rs. 1,000/-.

10. Break in Study

Student, who discontinues the studies for what-so-ever reason, can get readmission into appropriate semester of M.Tech program only with the prior permission of the Principal of the College, provided such candidate shall follow the transitory regulations applicable to the batch he joins. An administrative fee of Rs.2,000/- per each year of break in study in addition to the prescribed tuition and special fees should be paid by the candidate to condone his break in study.

11. Transitory Regulations

A candidate, who is detained or discontinued in a semester, on readmission shall be required to do all the courses in the curriculum prescribed for the batch of students in which the student joins subsequently. However, exemption will be given to those candidates who have already passed such courses in the earlier semester(s) he was originally admitted into and he will be offered substitute subjects in place of them as decided by the Board of Studies. However, the decision of the Board of Studies will be final.

11.1 A student who is following JNTUK curriculum and detained due to shortage of attendance at the end of the first semester of first year shall join the autonomous batch of first year first semester. Such students shall study all the courses prescribed for the batch in which the student joins and considered on par with regular candidates of Autonomous stream and will be governed by the autonomous regulations.

11.2 A student who is following JNTUK curriculum, detained due to shortage of attendance at the end of the second semester of first year shall join with the autonomous batch in the second semester. Such candidates shall be required to pass in all the courses in the program prescribed by the Board of Studies concerned for that batch of students from that semester onwards to be eligible for the award of degree. However, exemption will be given in the courses of the semester(s) of the batch which he had passed earlier and substitute subjects are offered in place of them as decided by the Board of Studies. The student has to clear all his backlog subjects of first semester by appearing for the supplementary examinations conducted by JNTUK for the award of degree. The total number of credits to be secured for the award of the degree will be sum of the credits of first semester under JNTUK regulations and the credits prescribed in second semester in which a candidate seeks readmission and subsequent semesters under the autonomous stream. The class will be awarded based on the academic performance of a student in the autonomous pattern.

12. Withholding of Results

If the student has not paid the dues, if any, to the College or if any case of indiscipline is pending against him, the result of the student will be withheld. His degree will be withheld in such cases.

13. Malpractices

- i) The Principal shall refer the cases of malpractices in internal assessment tests and semester end examinations to a malpractice enquiry committee constituted by him for the purpose. Such committee shall follow the approved levels of punishment. The Principal shall take necessary action against the erring students based on the recommendations of the committee.
- ii) Any action by the candidate trying to get undue advantage in the performance or trying to help another, or derive the same through unfair means is punishable according to the provisions contained hereunder.

Malpractice Provisions:

Sl. No.	Nature of Malpractices / Improper conduct	Punishment
1 (a)	Possesses or keeps accessible in examination hall, any paper, note book, programmable calculators, Cell phones, pager, palm computers or any other form of material concerned	Expulsion from the examination hall and cancellation of the performance in that subject only.

	with or related to the subject of the examination (theory or practical) in which he is appearing but has not made use of (material shall include any marks on the body of the candidate which can be used as an aid in the subject of the examination.)	
(b)	Gives assistance or guidance or receives it from any other candidate orally or by any other body language methods or communicates through Cell phones with any candidates or persons in or outside the exam hall in respect of any matter.	Expulsion from the examination hall and cancellation of the performance in that subject only of all the candidates involved. In case of an outsider, he will be handed over to the police and a case is registered against him.
2	Has copied in the examination hall from any paper, book, programmable calculators, palm computers or any other form of material relevant to the subject of the examination (theory or practical) in which the candidate is appearing.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted to appear for the remaining examinations of the subjects of that semester / year. The hall ticket of the candidate is to be cancelled and sent to the university.
3	Impersonates any other candidate in connection with the examination.	The candidate who has impersonated shall be expelled from examination hall. The candidate is also debarred and forfeits the seat. The performance of the original candidate who has been impersonated shall be cancelled in all the subjects of the examination (including practicals and project work) already appeared and shall not be allowed to appear for the examinations of the remaining subjects of that semester/ year. The candidate is also debarred from class work and all university examinations for two consecutive semesters. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat. If the impostor is an outsider, he will be handed over to the police and a case is registered against him.
4	Smuggles the Answer book or takes out or arranges to send out the question paper during the examination or answer book during or after the examination.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted to appear for the remaining examinations of the subjects of that semester / year. The candidate is also debarred for two consecutive semesters

		from class work and all university examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.
5	Uses objectionable, abusive or offensive language in the answer paper or in letters to the examiners or writes to the examiner requesting him to award pass marks.	Cancellation of performance in that subject.
6	Refuses to obey the orders of the Chief Superintendent /Asst.-Superintendent/ any officer on duty or misbehaves or creates disturbance of any kind in or around the examination hall or organizes a walkout or instigates others to walkout or threatens the officer-in-charge or any person on duty in or outside the examination hall of any injury to his person or to any of his relations whether by words, either spoken or written or by signs or by visible representation, assaults the Officer-in-charge or any person on duty in or outside the examination hall of any of his relations or indulges in any other act of misconduct or mischief which results in damage to or destruction of property in the examination hall or any part of the college campus or engages in any other act which in the opinion of the Officer on duty amounts to use of unfair means or misconduct or has the tendency to disrupt the orderly conduct of the examination.	In case of students of the college, they shall be expelled from examination halls and cancellation of their performance in that subject and all other subjects the candidate(s) has (have) already appeared and shall not be permitted to appear for the remaining examinations of the subjects of that semester/ year. The candidates also are debarred and forfeit their seats. In case of outsiders, they will be handed over to the police and a police case is registered against them.
7	Leaves the exam hall taking away answer script or intentionally tears of the script or any part thereof inside or outside the examination hall.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted to appear for the remaining examinations of the subjects of that semester/ year. The candidate is also debarred for two consecutive semesters from class work and all university examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with

		forfeiture of seat.
8	Possess any lethal weapon or firearm in the examination hall.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted to appear for the remaining examinations of the subjects of that semester/ year. The candidate is also debarred and forfeits the seat.
9	If student of the college who is not a candidate for the particular examination or any person not connected with the college indulges in any malpractice or improper conduct mentioned in clause 6 to 8.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted to appear for the remaining examinations of the subjects of that semester/ year. The candidate is also debarred and forfeits the seat. Person(s) who do not belong to the college will be handed over to the police and a police case is registered against them.
10	Comes in a drunken condition to the examination hall.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/ year.
11	Copying detected on the basis of internal evidence, such as, during valuation or during special scrutiny.	Cancellation of the performance in that subject and all other subjects the candidate has appeared including practical examinations and project work of that semester/ year examinations.
12	If any malpractice is detected which is not covered in the above clauses 1 to 11 shall be reported to the university for future action toward suitable punishment.	

Malpractices identified at spot centre during valuation

The following procedure is to be followed in the case of malpractice cases detected during valuation, scrutiny etc. at spot centre.

- I. A notice is to be served to the candidate(s) involved **(i)** through the Principal of the college concerned, **(ii)** to the candidate(s) to his college address and **(iii)** to the candidate(s) to his permanent address regarding the malpractice.
- II. A committee consisting of the following is to be constituted at spot centre to process such malpractice cases and the recommendations of the malpractice committee are to be sent to the university.
 1. Principal Chairman
 2. Dean Academic Affairs Member
 3. Chief examiner of that subject Member
 4. Controller of Examinations Convener

- III. The involvement of the staff, who are in charge of conducting examinations, valuing examination papers and preparing / keeping records of documents related to the examinations in such acts (inclusive of providing incorrect or misleading information) that infringe upon the course of natural justice to one and all concerned at the examination shall be viewed seriously and appropriate disciplinary action will be taken after thorough enquiry.

14. Other Matters

- i) Physically challenged candidates who have availed additional examination time and a scribe during their BE / B.Tech or equivalent examinations will be given similar concessions on production of relevant proof/documents. Students who are suffering from contagious diseases are not allowed to appear either for internal or semester end examinations.
- ii) The students who participated in coaching / tournaments held at State / National / International levels through University / Indian Olympic Association during semester end external examination period will be promoted to subsequent semesters as per the guidelines of University Grants Commission Letter No. F.1-5/88 (SPE/PES), dated 18-08-1994.
- iii) The Principal shall deal in an appropriate manner with any academic problem which is not covered under these rules and regulations, in consultation with the Heads of the Departments and subsequently such actions shall be placed before the Academic Council for ratification. Any emergency modification of regulation, approved in the meetings of the Heads of the Departments shall be reported to the Academic Council for ratification.

15. General

- i) The Academic Council may, from time to time, revise, amend or change the regulations, schemes of examination and /or syllabi.
- ii) The academic regulations should be read as a whole for the purpose of any interpretation.
- iii) In case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Chairman of the Academic Council is final.
- iv) Wherever the word he, him or his occurs, it will also include she, her and hers.

Signature of the Head of the Department
Dr.P.Kodanda Rama Rao
Department of Civil Engineering
Gudlavalleru Engineering College

Signature of the Head of the Department
Dr.M.Siva Kumar
Department of Electrical & Electronics Engineering
Gudlavalleru Engineering College

Signature of the Head of the Department
Dr.A.Jawahar Babu
Department of Mechanical Engineering
Gudlavalleru Engineering College

Signature of the Head of the Department
Dr.M.Kama Raju
Department of Electronics & Communication Engg.
Gudlavalleru Engineering College

Signature of the Head of the Department
Dr.M.Babu Rao
Department of Computer Science & Engg.
Gudlavalleru Engineering College

Signature of the Principal
Dr.P.Ravindra Babu
Gudlavalleru Engineering College
Seshadri Rao Knowledge Village, Gudlavalleru

COURSE STRUCTURE

M.Tech – STRUCTURAL ENGINEERING

I Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
MA1902	Computational Methods in Engineering	4	-	40	60	100	3
CE1901	Theory of Elasticity	4	-	40	60	100	3
CE1902	Advanced Concrete Technology	4	-	40	60	100	3
CE1903	Structural Dynamics	4	-	40	60	100	3
	Elective – I	4	-	40	60	100	3
	Elective – II	4	-	40	60	100	3
CE1910	Advanced Structural Engineering Lab	-	6	50	50	100	3
Total		24	6	290	410	700	21

II Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
CE1911	Finite Element Methods	4	-	40	60	100	3
CE1912	Earthquake Resistant Design	4	-	40	60	100	3
CE1913	Stability of Structures	4	-	40	60	100	3
CE1914	Theory of Plates and Shells	4	-	40	60	100	3
	Elective – III	4	-	40	60	100	3
	Elective – IV	4	-	40	60	100	3
CE1921	Computer Applications in Structural Engineering Lab	-	6	50	50	100	3
Total		24	6	290	410	700	21

III Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
CE1922	Seminar	-	-	50	-	50	2
CE1923	Comprehensive Viva-Voce	-	-	50	-	50	2
	Dissertation (Initiated in	-	-	-	-	-	-

	third semester)						
		Total				100	4

IV Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
CE1924	Dissertation (Carried out in third & fourth semesters)	-	-	-	-	-	34
				Total			34

Electives:

I Semester		II Semester	
Elective – I		Elective – III	
CE1904	Advanced Structural Analysis	CE1915	Pre-Stressed Concrete
CE1905	Advanced Foundation Engineering	CE1916	Advanced Design of Steel Structures
CE1906	Structural Optimization	CE1917	Repair & Rehabilitation of Structures
Elective – II		Elective – IV	
CE1907	Advanced Design of Concrete Structures	CE1918	Industrial Structures
CE1908	Structural Reliability	CE1919	Design of Bridge Structures
CE1909	Earth Retaining Structures	CE1920	Design of Off Shore Structures

Signature of the Head of the Department
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 Department of Civil Engineering
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Signature of the Principal
Dr.P.Ravindra Babu
 Gudlavalleru Engineering College
 Seshadri Rao Knowledge Village, Gudlavalleru
 Krishna District – AP - 521356

COURSE STRUCTURE

M.Tech – POWER ELECTRONICS AND ELECTRIC DRIVES

I Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
EC1901	ARM Architecture and Programming	4	-	40	60	100	3
EE1901	Electrical Machine Modeling and Analysis	4	-	40	60	100	3
EE1902	Analysis of Power Electronic Converters	4	-	40	60	100	3
EE1903	Electric Drives – I	4	-	40	60	100	3
	Elective – I	4	-	40	60	100	3
	Elective – II	4	-	40	60	100	3
EE1910	Power Electronics Systems Simulation Lab	-	6	50	50	100	3
Total		24	6	290	410	700	21

II Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
EE1911	Switched Mode Power Converters	4	-	40	60	100	3
EE1912	Electric Drives – II	4	-	40	60	100	3
EE1913	Flexible AC Transmission Systems	4	-	40	60	100	3
EC1904	Digital Signal Processing and Applications	4	-	40	60	100	3
	Elective – III	4	-	40	60	100	3
	Elective – IV	4	-	40	60	100	3
EE1920	Power Electronics and Drives Lab	-	6	50	50	100	3
Total		24	6	290	410	700	21

III Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
EE1921	Seminar	-	-	50	-	50	2
EE1922	Comprehensive Viva-	-	-	50	-	50	2

	Voce						
	Dissertation (Initiated in third semester)	-	-	-	-	-	-
		Total				100	4

IV Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
EE1923	Dissertation (Carried out in third & fourth semesters)	-	-	-	-	-	34
		Total					34

Electives:

I Semester		II Semester	
Elective – I		Elective – III	
EE1904	Power Semiconductor Devices & Protection	EE1914	Renewable Energy Sources
EE1905	Engineering Optimization	EE1915	AI Techniques
EE1906	HVDC Transmission Systems	EE1916	Smart Grid
Elective – II		Elective – IV	
EE1907	Power System Dynamics and Stability	EE1917	Custom Power Devices
EE1908	Special Machines and Control	EE1918	Digital Control Systems
EE1909	Modern Control Theory	EE1919	Computer Aided Design of Electrical Machines

Signature of the Head of the Department
Dr.M.Siva Kumar
 Department of Electrical & Electronics Engineering
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Signature of the Principal
Dr.P.Ravindra Babu
 Gudlavalleru Engineering College
 Seshadri Rao Knowledge Village, Gudlavalleru
 Krishna District – AP - 521356

COURSE STRUCTURE

M.Tech – CONTROL SYSTEMS

I Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
EC1901	ARM Architecture and Programming	4	-	40	60	100	3
EE1924	Advanced Digital Control Systems	4	-	40	60	100	3
EE1925	Stochastic Estimation and Control	4	-	40	60	100	3
EE1926	Advanced Control Theory	4	-	40	60	100	3
	Elective – I	4	-	40	60	100	3
	Elective – II	4	-	40	60	100	3
EE1930	Control Systems Simulation Lab	-	6	50	50	100	3
Total		24	6	290	410	700	21

II Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
EE1931	Computer Aided Design of Control Systems	4	-	40	60	100	3
EE1932	Non-Linear Systems Analysis	4	-	40	60	100	3
EC1902	Advanced Digital Signal Processing	4	-	40	60	100	3
EE1933	Optimal Control Theory	4	-	40	60	100	3
	Elective – III	4	-	40	60	100	3
	Elective – IV	4	-	40	60	100	3
EE1936	Advanced Control Systems Lab	-	6	50	50	100	3
Total		24	6	290	410	700	21

III Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
EE1937	Seminar	-	-	50	-	50	2

EE1938	Comprehensive Viva-Voce	-	-	50	-	50	2
	Dissertation (Initiated in third semester)	-	-				-
Total						100	4

IV Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
EE1939	Dissertation (Carried out in third & fourth semesters)	-	-	-	-	-	34
Total							34

Electives:

I Semester		II Semester	
Elective – I		Elective – III	
EE1927	Computer Controlled Systems	EE1914	Renewable Energy Sources
EE1905	Engineering Optimization	EE1915	AI Techniques
EE1928	Process Control	EC1903	Embedded Real-Time Operating Systems
Elective – II		Elective – IV	
EE1907	Power System Dynamics and Stability	EE1917	Custom Power Devices
EE1908	Special Machines and Control	EE1934	Adaptive Control Systems
EE1929	Large Scale Systems Modeling	EE1935	Programmable Logic Controller

Signature of the Head of the Department
Dr.M.Siva Kumar
 Department of Electrical & Electronics Engineering
 Gudlavalleru Engineering College

Signature of the Principal
Dr.P.Ravindra Babu
 Gudlavalleru Engineering College
 Seshadri Rao Knowledge Village, Gudlavalleru
 Krishna District – AP - 521356

COURSE STRUCTURE
M.Tech – MACHINE DESIGN

I Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
MA1902	Computational Methods in Engineering	4	-	40	60	100	3
ME1901	Advanced mechanics of Solids	4	-	40	60	100	3
ME1902	Analysis and Synthesis of Mechanisms	4	-	40	60	100	3
ME1903	Mechanical Vibrations	4	-	40	60	100	3
	Elective – I	4	-	40	60	100	3
	Elective – II	4	-	40	60	100	3
ME1910	Machine Dynamics Lab	-	6	50	50	100	3
Total		24	6	290	410	700	21

II Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
ME1911	Finite Element Methods	4	-	40	60	100	3
ME1912	Geometrical Modeling	4	-	40	60	100	3
ME1913	Condition Monitoring	4	-	40	60	100	3
ME1914	Design for Manufacturing and Assembly	4	-	40	60	100	3
	Elective – III	4	-	40	60	100	3
	Elective – IV	4	-	40	60	100	3
ME1921	Modeling and Analysis Lab	-	6	50	50	100	3
Total		24	6	290	410	700	21

III Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
ME1922	Seminar	-	-	50	-	50	2

ME1923	Comprehensive Viva-Voce	-	-	50	-	50	2
	Dissertation (Initiated in third semester)	-	-	-	-	-	-
Total						100	4

IV Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
ME1924	Dissertation (Carried out in third & fourth semesters)	-	-	-	-	-	34
Total							34

Electives:

I Semester		II Semester	
Elective – I		Elective – III	
ME1904	Product Design	ME1915	Fracture Mechanics
ME1905	Rotor Dynamics	ME1916	Engineering Optimization
ME1906	Experimental Stress Analysis	ME1917	Rapid Tooling and Prototyping
Elective – II		Elective – IV	
ME1907	Pressure Vessel Design	ME1918	Theory of Elasticity
ME1908	Gear Engineering	ME1919	Computational Fluid Dynamics
ME1909	Material Selection for Design	ME1920	Tribology

Signature of the Head of the Department
Dr.A.Jawahar Babu
 Department of Mechanical Engineering
 Gudlavalleru Engineering College

Signature of the Principal
Dr.P.Ravindra Babu
 Gudlavalleru Engineering College
 Seshadri Rao Knowledge Village, Gudlavalleru
 Krishna District – AP - 521356

COURSE STRUCTURE

M.Tech – DIGITAL ELECTRONICS AND COMMUNICATION SYSTEMS

I Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
EC1905	Principles of Digital System Design	4	-	40	60	100	3
EC1906	Detection and Estimation of Signals	4	-	40	60	100	3
EC1907	VLSI Technology and Design	4	-	40	60	100	3
EC1902	Advanced Digital Signal Processing	4	-	40	60	100	3
	Elective – I	4	-	40	60	100	3
	Elective – II	4	-	40	60	100	3
EC1914	Design and Simulation Lab	-	6	50	50	100	3
Total		24	6	290	410	700	21

II Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
EC1915	Coding Theory and Applications	4	-	40	60	100	3
EC1916	Digital Signal Processors and Architectures	4	-	40	60	100	3
EC1917	CMOS Analog and Digital IC Design	4	-	40	60	100	3
EC1918	Wireless Sensor Networks	4	-	40	60	100	3
	Elective – III	4	-	40	60	100	3
	Elective – IV	4	-	40	60	100	3
EC1925	Advanced Signal Processing & Communication Lab	-	6	50	50	100	3
Total		24	6	290	410	700	21

III Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				

EC1935	Seminar	-	-	50	-	50	2
EC1936	Comprehensive Viva-Voce	-	-	50	-	50	2
	Dissertation (Initiated in third semester)	-	-	-	-	-	-
Total						100	4

IV Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
EC1937	Dissertation (Carried out in third & fourth semesters)	-	-	-	-	-	34
Total							34

Electives:

I Semester		II Semester	
Elective – I		Elective – III	
EC1908	Transform Techniques	EC1919	Low Power VLSI Design
EC1909	Wireless Communication & Networks	EC1920	Advanced Computer Architecture
EC1910	Antenna Design	EC1921	Design of Fault Tolerant Systems
Elective – II		Elective – IV	
EC1911	CPLD and FPGA Architectures	EC1922	Statistical Signal Processing
EC1912	System on Chip Design	EC1923	Image and Video Processing
EC1913	Embedded Software Concepts	EC1924	Optical Communication Networks

Signature of the Head of the Department
Dr.M.Kama Raju
 Department of Electronics & Communication Engg.
 Gudlavalleru Engineering College

Signature of the Principal
Dr.P.Ravindra Babu
 Gudlavalleru Engineering College
 Seshadri Rao Knowledge Village, Gudlavalleru
 Krishna District – AP - 521356

COURSE STRUCTURE
M.Tech – EMBEDDED SYSTEMS

I Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
EC1926	Embedded Systems Design	4	-	40	60	100	3
EC1907	VLSI Technology and Design	4	-	40	60	100	3
EC1902	Advanced Digital Signal Processing	4	-	40	60	100	3
EC1927	Embedded – C	4	-	40	60	100	3
	Elective – I	4	-	40	60	100	3
	Elective – II	4	-	40	60	100	3
EC1929	Hardware Description Language Lab	-	6	50	50	100	3
Total		24	6	290	410	700	21

II Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
EC1917	CMOS Analog and Digital Design	4	-	40	60	100	3
EC1916	Digital Signal Processors and Architecture	4	-	40	60	100	3
EC1930	Embedded Computing	4	-	40	60	100	3
EC1918	Wireless Sensor Networks	4	-	40	60	100	3
	Elective – III	4	-	40	60	100	3
	Elective – IV	4	-	40	60	100	3
EC1934	Embedded Systems Lab	-	6	50	50	100	3
Total		24	6	290	410	700	21

III Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	

		L	P				
EC1938	Seminar	-	-	50	-	50	2
EC1939	Comprehensive Viva-Voce	-	-	50	-	50	2
	Dissertation (Initiated in third semester)	-	-	-	-	-	-
		Total				100	4

IV Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
EC1940	Dissertation (Carried out in third & fourth semesters)	-	-	-	-	-	34
		Total					34

Electives:

I Semester		II Semester	
Elective – I		Elective – III	
EC1905	Principles of Digital System Design	EC1931	Sensors and Actuators
EC1903	Embedded Real Time Operating Systems	EC1912	Systems on Chip Design
EC1901	ARM Architecture and Programming	EC1921	Design of Fault Tolerant Systems
Elective – II		Elective – IV	
EC1913	Embedded Software Concepts	EC1932	Micro Electro Mechanical Systems
EC1920	Advanced Computer Architecture	EC1933	Embedded Networking
EC1928	Hardware Software Co-Design	EC1911	CPLD and FPGA Architectures

Signature of the Head of the Department

Dr.M.Kama Raju

Department of Electronics & Communication Engg.
Gudlavalleru Engineering College

Signature of the Principal

Dr.P.Ravindra Babu

Gudlavalleru Engineering College
Seshadri Rao Knowledge Village, Gudlavalleru
Krishna District – AP - 521356

COURSE STRUCTURE

M.Tech – COMPUTER SCIENCE ENGINEERING

I Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
CS1901	Data Structures and Algorithm Analysis	4	-	40	60	100	3
CS1902	Database Management Systems	4	-	40	60	100	3
CS1903	Advanced Computer Architecture	4	-	40	60	100	3
CS1904	Distributed Systems	4	-	40	60	100	3
	Elective – I	4	-	40	60	100	3
	Elective – II	4	-	40	60	100	3
CS1911	Software Lab – I	-	6	50	50	100	3
Total		24	6	290	410	700	21

II Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
CS1912	Wireless Networks	4	-	40	60	100	3
CS1913	Data Mining and Data Warehousing	4	-	40	60	100	3
CS1914	Cryptography and Network Security	4	-	40	60	100	3
CS1915	Object Oriented Software Engineering	4	-	40	60	100	3
	Elective – III	4	-	40	60	100	3
	Elective – IV	4	-	40	60	100	3
CS1922	Software Lab – II	-	6	50	50	100	3
Total		24	6	290	410	700	21

III Semester

Subject Code	Subject	Periods / Week		Marks			Credits
		Theory	Lab/	Internal	External	Total	

		Practice					
		L	P				
CS1923	Seminar	-	-	50	-	50	2
CS1924	Comprehensive Viva-Voce	-	-	50	-	50	2
	Dissertation (Initiated in third semester)	-	-	-	-	-	-
Total						100	4

IV Semester

Subject Code	Subject c	Periods / Week		Marks			Credits
		Theory	Lab/ Practice	Internal	External	Total	
		L	P				
CS1925	Dissertation (Carried out in third & fourth semesters)	-	-	-	-	-	34
Total							34

Electives:

I Semester		II Semester	
Elective – I		Elective – III	
CS1905	E-Commerce	CS1916	Human Computer Interface
CS1906	Mobile Computing	CS1917	Artificial Intelligence
CS1907	Computer Forensics	CS1918	Big Data
Elective – II		Elective – IV	
CS1908	Performance Evaluation of Computer Systems	CS1919	Cloud Computing
CS1909	Software Project Management	CS1920	Big-Informatics
CS1910	Digital Image Processing	CS1921	Parallel Computing

Signature of the Head of the Department
Dr.M.Babu Rao
 Department of Computer Science & Engg.
 Gudlavalleru Engineering College

Signature of the Principal
Dr.P.Ravindra Babu
 Gudlavalleru Engineering College
 Seshadri Rao Knowledge Village, Gudlavalleru
 Krishna District – AP - 521356